hear Dwarka in Gujarat to find out historical remains;

(b) by when the final report is likely to be published; and

(c) what is the total amount so far spent on this project ?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE AND MINISTER OF STATE IN THE DEPARTMENTS OF ATOMIC ENERGY AND SPACE WITH ADDITIONAL CHARGE OF MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI BHUVNESH CHATURVEDI) : (a) Underwater exploration of Dwarka undertaken upto January, 1992 has revealed structures such as Fortwalls Bastions, Stone Anchors and Flag Posts providing definite evidences of submerged port.

(b) Final report on Dwarka will be prepared after co-relating the Somnath evidence with that of Dwarka.

(c) The total expenditure so far incurred on this project is Rs. 31.99 lakhs.

PSLV Launch

2076. SHRIMATI VEENA VERMA :

SHRI SUSHILKUMAR SAMBHAJIRAO SHINDE : Will the PRIME MINISTER be pleased to state :

(a) whether it is a fact that the PSLV-lunch made in September this year, failed to get into the proper orbit owing to some snags in the last stage;

(b) if so, how far it has disrupted the space programme; and

(c) whether this has enhanced the need for cryogenic rocket engines, if so, to what extent ?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE AND MINISTER OF STATE IN THE DEPARTMENTS OF ATOMIC ENERGY AND SPACE WITH ADDITIONAL CHARGE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI BHUVNESH CHATURVEDI) : (a) The first developmental flight of Polar Satellite Launch Vehicle (PSLV) took place from Srihanikota on 20-09-1993. While almost all the systems worked satisfactorily till the end of second stage, the disturbances caused during the separation of the second stage from the third stage coupled with a software error under large pitch error conditions in onboard computer resulted in the loss of control and changed trajectory. Notwithstanding, the third stage has functioned normally. The fourth stage also ignited as planned and developed full thrust as expected till splash down.

(b) and (c) There is no major disruption in the country's space programme. The first few developmental flights are meant to prove the vehicle and the experience of failure in the first development flight is not unexpected. In spite of the failure to reach the final orbit, the success achieved in proving all the major systems and subsystems of the complex vehicle is note worthy. Particularly, in the context of Geosynchronous Satellite Launch Vehicle (GSLV) development, both the first and second stages of GSLV have been successfully flight tested, which are the same as those of PSLV. This gives added confidence for the GSLV development. The development of cryogenic engine for the upper stage of GSLV is being pursued separately and has no link to the development of PSLV.

12.00 NOON

PAPERS LAID ON THE TABLE

Notification of the Ministry of Civil Aviation and Tourism

THE MINISTER OF CIVIL AVIATION AND TOURISM (SHRI GHULAM NABI AZAD): Madam, I lay on the Table, under section 14-A of the Aircraft Act, 1934, a copy (in English and Hindi) of the Ministry of Civil Aviation and Tourism (Department of Civil Aviation) Notification G. S. R. No. 452 (E), dated the 11th June, 1993, publishing the Aircraft (Second Amendment) Rules, 1993, together with an explanatory memorandum thereon. [Placed in Library *See* No. 4786/93].

I. Reports and Accounts (1992-93) of the Uranium Corporation of India Limited, Singhbhum (Bihar) and related papers